The use of new generation equipment in functional diagnosis and treatment planning for individual parameters

Using of additional equipment allows getting individual information for functional treatment planning. The development of digital technologies in the dental practice allows leading high precision complex diagnostics: Get CBCT data, 3D cephalometric analysis, analyze occlusion on virtual models, register individual movement trajectories and finally combine all the data for individual treatment plan. We developed new optical axiograph to analyze violation of lower jaw articulation. It is based on work of only 1 camera. Dentograf allows registration lower jaw movement trajectories for patients with any occlusal pathology. Especially for patients undergoing orthodontic treatment were developed new markers, which mounts only on 1 tooth. Dynamic parameters of movement we can combine with CBCT for individual diagnosis. Combining static and dynamic data in single software may predict treatment and conduct a dynamic analysis of its stages. Quite often, in the planning of complex treatment, we use advanced calculations; cephalometric analysis and subsequent calculations use the treatment. We developed dynamic cephalometric analysis for doctors to plan how these calculations will influence the treatment or if it is possible to change lower jaw position. For the analysis of muscle tension, we have developed a new wireless electromyograph and combined it with axiograph. This greatly increased the accuracy of treatment in complex clinical situations such as total prosthetic reconstruction with the use of implants. It also improved treatment associated with a reduction of the lower facial height in patients with TMJ dysfunction. In today’s time a lot of data received, after the functional diagnostics are in digital format. Therefore, the virtual planning of treatment develops by combining and analyzing the individual parameters. Now it allows you to show the patient how his smile will look like before starting the treatment and to make functional treatment plan.

Biography

Evgeny Roshchin has completed his graduation from the Moscow State University of Medicine and Dentistry in 2004 and awarded with PhD in 2011. He is the author of 13 patents. His main area of research is devoted to functional diagnostics in dentistry and analysis of the parameters involved in the articulation of the lower jaw.

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